

## SOL-GEL PROCESS UTILIZING REDUCED MIXING TEMPERATURES

### Abstract of the Disclosure

5 A method of forming a gel monolith includes preparing a first solution comprising metal alkoxide and preparing a second solution comprising a catalyst. A third solution is prepared by mixing the first solution and the second solution together. At least one of the first, second, and third solutions is cooled to achieve a mixture temperature for the third solution which is substantially below room temperature, wherein the third solution has a significantly longer gelation time at the mixture temperature as compared to a room temperature gelation time for the third solution. 10 The method further includes allowing the third solution to gel, thereby forming the gel monolith.

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